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(54) Title: LIQUID COMPOUNDS FOR FORMATION OF MATERIALS CONTAINING ALKALINE EARTH METALS

(57) Abstract

A liquid precursor is provided for the formation of alkaline earth containing materials. The liquid precursor comprises an alkaline earth metal beta–diketonate bound to an amine. For example, a liquid compound was formed by reacting N,N',N''–trihexyldiethylenetriamine with barium 2,2,6,6–tetramethyl–3,5 heptanedionate. Films containing alkaline earth metals are deposited from vapors of the precursor liquids and, optionally, oxygen or other sources of oxygen. This process may be used to deposit barium strontium titanate films having a high dielectric constant. The liquid precursors may also be used for spray coating and sol–gel deposition of materials. The figure is an X–ray crystallographic structure of strontium bis (2,2,6,6–tetramethyl-heptane–3,5–dionate) with N,N', N''–triamyldiethylenetriamine.